Watershed/Aquifer Land Conservation – a Best Management Practice (BMP) for Water Supply Protection, *Prepared by Russ Cohen, Mass. Riverways Program (http://www.massriverways.org), updated October 25, 2005*

Preserving open space in a natural and undeveloped condition is a well-known best management practice (BMP) for source water protection, both for surface and groundwater supplies, and has the added benefit of protecting ecological communities and functions too. Keeping land in an undeveloped and naturally-vegetated condition around water supply wells, reservoirs and other intakes helps to maintain the source water's cleanliness as well as facilitate aquifer and reservoir recharge.

What is often overlooked, however, is the value of open space conservation on the demand side. Land within a water supplier's service area that is preserved as open space and prevented from being developed, whether or not it is located in a source water area, will prevent more homes, businesses and accompanying thirsty lawns and landscapes from being established on that land, placing yet more stress on what is for many communities an already strained water supply.

That said, an effective strategy in most communities is to promote land conservation primarily as a source water protection measure, with its value in mitigating future demand and maintaining natural ecological functions being mentioned as additional benefits. Public water suppliers should consider forming partnerships with land trusts to protect land around drinking water sources. Most public water suppliers are unused to negotiating with property owners or undertaking the necessary steps (surveys, appraisals, title searches, etc.) to make an acquisition happen. Nor are many suppliers experienced at rallying public support in favor of increasing water rates or other local revenue to fund source protection, even though it is entirely appropriate for water rates to include the cost of acquiring land around public water supplies to help prevent contamination and provide natural filtration as a part of the full cost of providing clean drinking water to their customers.

Land trusts can help build the case amongst the citizenry for the importance of funding land protection for water supply purposes, while assisting the water supplier in identifying and securing undeveloped open space with water supply protection value. In the meantime, public water suppliers (through revenue from selling water, bond monies or both) potentially offer a funding "stream" of increased importance. Furthermore, the public support for land protection for public water supply protection (to, e.g., avoid the high treatment costs of cleaning up contaminated source water to drinkable quality) consistently scores as a high if not higher priority in most public opinion polls than other purposes such as wildlife habitat. In other words, it is usually clear to a broad segment of the public (including many people that would not characterize themselves as environmentalists) of the necessity of raising local revenue (through increased water rates, property tax increases to pay off bonds funding source protection, etc.) to protect their public water supply. Protecting land for water supply protection purposes usually safeguards its other values (scenic, ecological, and, where appropriate, passive recreational values). So even if it is the public water supply protection argument that is the most effective in rallying public support and funding, other resource values, including riverine habitats, are likely to benefit as well.

Last but not least, (and this is what makes this measure a water conservation as well as a source water protection BMP), protecting such land from development also helps on the water demand side as well, as such land would not be converted into uses with irrigated lawns placing yet more stress on what is already in many communities an overstretched water supply and depleted rivers and streams.

One important prerequisite to a successful partnership between a land trust and water supplier for source water land protection is that the parties agree beforehand as to how and to what extent the protected land will be used for water supply purposes once protected. There are anecdotal examples of water suppliers working with land trusts to save lands from development, only to have the land trust oppose development of a new water supply on the property afterward. That being said, it is appropriate for a land trust to seek to safeguard other conservation values of the property to help ensure the water supply use does not unduly harm these values. For example, a land trust may want to persuade a water supply partner to locate a new well or reservoir away from sensitive wetlands or waterways, even if that would result in a reduced yield from the new source.

For specific examples of and additional help on land conservation for water resource protection, the following people can be contacted, all of whom participated in a panel on this subject at the 2004 and/or 2005 **Massachusetts Land Trust/Conservation Conference**: Russ Cohen, Mass. Riverways Program, (617) 626-1543, russ.cohen@state.ma.us; Bob O'Connor, Mass. Executive Office of Environmental Affairs, (617) 626-1170, robert.oconnor@state.ma.us; Mark Smith, The Nature Conservancy, (617) 542-1908, msmith@tnc.org; Jennifer Palmiotto, Northeast Rural Water Association, (800) 556-3792 ext.325, jpalmiotto@neruralwater.org Rebekah McDermott, Mass. Source Water Protection Specialist, Northeast Rural Water Association, (413) 584-1985, rmcdermott@neruralwater.org; Craig MacDonnell, Trust for Public Land (617) 367-6200. craig.macdonnell@tpl.org and Christopher B. LaPointe, The Trust for Public Land, (617) 367-6200 Ext. 358, Fax: (617) 367-

9885 (see, e.g., info at http://www.tpl.org/tier3_cd.cfm?content_item_id=14796&folder_id=260 about the **Worcester Watershed Land Protection Partnership**). Another helpful person for mentoring citizen and community source water protection efforts is Becky Smith of Clean Water Action [(617) 338-8131 ext. 210, bsmith@cleanwater.org].

Here are some links to successful source water protection case studies and other helpful resources:

- Clean Water Fund's Community Source Water Protection Initiative: http://www.protectsourcewater.org (see esp. CWF's on-line publication entitled ***Source Water Stewardship - A Guide to Protecting and Restoring your Drinking Water*** - http://www.protectsourcewater.org/guide.html)
- "Source Water Protection: An Ounce of Prevention is Worth a Pound of Cure", an article published 10/12/05 by the Safe Drinking Water Trust e-Bulletin: http://www.crg.org/bulletin/searchfinal.asp?ID=790
- ***Protecting the Source: Conserving Forests to Protect Water***, a publication by the American Water Works Association that can help convince water suppliers of the value of protecting forested land around water sources: http://www.slcgov.com/utilities/NewsEvents/pdf/Op0504_1.pdf
- ***Water Today...Water Tomorrow?: Protecting Drinking Water Sources in Your Community: Tools for Municipal Officials***, a publication of the New England Interstate Water Pollution Control Commission: http://www.neiwpcc.org/Index.htm?sourcewateroutreach/index.htm~mainFrame
- The ***Source Water Assessment and Protection Workshop Guide, 2nd Edition*** , put out by the Groundwater Foundation: http://www.groundwater.org/gi/swap/swap.html
- Mass. DEP Source Water Assessment Program (SWAP) - http://www.mass.gov/dep/brp/dws/swap.htm; On-line access to specific SWAP reports: http://www.mass.gov/dep/brp/dws/files/swap/swapreps.htm; DEP's source water protection strategy: http://www.mass.gov/dep/brp/epp/dw/proexwp.html
- Massachusetts Drinking Water Education Partnership (has info on source water protection and links to most of the public water suppliers in the Commonwealth): http://www.madwep.org/index.htm
- Land Conservation for Watershed Protection: http://www.tpl.org/tier2_pa.cfm?folder_id=1885 and http://www.epa.gov/safewater/protect/conference/pdf/b2.blaha.pdf
- ***Source Protection Handbook***: http://www.tpl.org/tier3_cd.cfm?content_item_id=18298&folder_id=175
- Federal Funding for Land Acquisition and Conservation Easements for Water Supply Protection:http://www.epa.gov/safewater/dwsrf/ffland.html and http://www.epa.gov/safewater/dwsrf/landmanage.pdf
- Permanently Protecting Water Supply Lands with Conservation Easements: http://www.spnhf.org/pdf/watersupply.pdf
- ***Protecting Surface Water Quality with Conservation Easements,*** a publication by the Land Trust Alliance: http://www.lta.org/publications/easement_lib.htm
- ***Functions of Riparian Areas for Protecting Public & Private Water Supplies***, one of nine fact sheets on the functions and values of naturally-vegetated riparian areas: http://www.mass.gov/dfwele/river/pdf/riparian_factsheet_5.pdf
- Story describing successful partnership between land trusts and water suppliers in Holden and Rutland: http://www.thelandmark.com/story.php3?story=9037
- Story describing efforts by the Rochester Land Trust to safeguard water supply land: http://home.comcast.net/~rochesterlandtrust/newslettermay04.htm
- Special legislation facilitating water supplier/land trust partnership in Fitchburg, MA: http://www.mass.gov/legis/laws/seslaw00/sl000095.htm
- Special legislation authorizing a 1¢ per gallon fee on water withdrawals from the Mattapoisett River aquifer to go into a Water Supply Protection Fund which may be expended for the purpose of assisting a town within the Mattapoisett river valley to acquire land for protection of the aquifer and for land or easement purchases - http://www.mass.gov/legis/laws/seslaw97/sl970092.htm
- Successful example of water supply land protection by the Barnstable Land Trust: http://www.blt.org/projects.ccml
- Successful example of water supply land protection in Lakeville involving the Trust for Public Land: http://www.tpl.org/tier3_cd.cfm?content_item_id=9920&folder_id=260
- Successful example of land trust involvement with preserving water supply land in RI: http://www.state.ri.us/dem/news/2004/pr/0611042.htm